CLAIMS

1. (Currently Amended) A filter for processing a biological fluid comprising:

at least two fibrous filter elements wherein the surface of one filter element is substantially non-hydroxylated and has a nitrogen-to-oxygen ratio in the range of from at least 0.01 to less than about 1.00, and the surface of the other filter element is hydroxylated relative to the bulk of the element, wherein the filter elements have a negative zeta potential at physiological pH.

2. (Previously Presented) The filter of claim 1, further comprising at least one additional fibrous filter element, wherein the surface of the additional element is substantially non-hydroxylated and has a nitrogen-to-oxygen ratio in the range of from at least 0.01 to less than about 1.00.

3. (Currently Amended) The filter of claim 1, further comprising at least one additional fibrous filter element, wherein the surface of the additional element is hydroxylated relative to the bulk of the element, wherein the filter element has a negative zeta potential at physiological pH.

4. (Previously Presented) The filter of claim 1, further comprising at least two additional fibrous filter elements, wherein the surface of the first additional element is substantially non-hydroxylated and has a nitrogen-to-oxygen ratio in the range of from at least 0.01 to less than about 1.00, and the surface of the second additional element is hydroxylated relative to the bulk of the element.

5. (Previously Presented) The filter of claim 2, wherein the element having the hydroxylated surface is interposed between the two elements having surfaces including the nitrogen-to-oxygen ratio in the range of from at least 0.01 to less than about 1.00.

6. (Previously Presented) The filter of claim 3, wherein the element having a surface that is substantially non-hydroxylated and including the nitrogen-to-oxygen ratio in the range of from at least 0.01 to less than about 1.00 is interposed between the two elements having hydroxylated surfaces.

7. (Previously Presented) The filter of claim 1, wherein at least a portion of the surface of the element hydroxylated relative to the bulk of the element is aminated relative to the bulk of the element.

8. (Previously Presented) The filter of claim 7, wherein another portion of the surface of the element hydroxylated relative to the bulk of the element is aminated relative to the bulk of the element.

9. (Previously Presented) The filter of claim 1, wherein the surface of the filter element that is substantially non-hydroxylated has a nitrogen-to-oxygen ratio in the range from at least about 0.2 to less than about 1.00.

10. (Previously Presented) The filter of claim 1, wherein the filter element with the hydroxylated surface includes at least one carboxyl group.

Claim 11. (Canceled)

12. (Previously Presented) The filter of claim 1, wherein the filter element having the surface that is substantially non-hydroxylated and including the nitrogen-to-oxygen ratio comprises a porous fibrous leukocyte depletion medium having a first predetermined critical wetting surface tension (CWST); and the filter element having a hydroxylated surface comprises a porous fibrous leukocyte depletion medium having a second predetermined CWST.

13. (Original) The filter of claim 12, wherein the two filter elements have different critical wetting surface tensions (CWSTs).

Claim 14. (Canceled)

15. (Previously Presented) The filter of claim 1, wherein at least one filter element has a CWST of at least about 90 dynes/cm.

16. (Previously Presented) A filter device for processing a biological fluid comprising:

a housing having an inlet and an outlet and defining a fluid flow path between the inlet and the outlet; and

the filter of claim 1 disposed in the housing across the fluid flow path.

17. (Original) The filter device of claim 16, wherein the filter is arranged to allow plasma to pass therethrough and substantially prevent the passage of leukocytes and platelets therethrough.

18. (Original) The filter device of claim 16, wherein the filter is arranged to allow plasma to pass therethrough and substantially prevent the passage of leukocytes therethrough, without substantially activating C3a in the biological fluid.

19. (Original) The filter device of claim 16, wherein the filter is arranged to allow plasma to pass therethrough and substantially prevent the passage of platelets, leukocytes, and C3a therethrough.

20. (Previously Presented) The filter device of claim 16, wherein the filter is arranged to provide leukocyte-depleted plasma having about 1×10^3 leukocytes or less therein.

21. (Previously Presented) The filter device of claim 16, wherein the filter is arranged to provide platelet-depleted plasma having about 1×10^9 platelets or less therein.

22. (Previously Presented) The filter device of claim 16, wherein the filter substantially removes C3a from the biological fluid passing therethrough.

Claims 23-30 (Canceled)

31. (Previously Presented) The filter of claim 1, wherein the surface of the filter element that is substantially non-hydroxylated and having a nitrogen-to-oxygen ratio in the range of from at least 0.01 to less than 1.00 has a greater number of carboxyl groups relative to the bulk of the element.

32. (Currently Amended) A filter for processing a biological fluid comprising:

at least two fibrous filter elements, wherein the surface of one filter element is substantially non-hydroxylated and has a greater number of carboxyl groups relative to the bulk of the element and the surface of the other filter element is hydroxylated relative to the bulk of the element, wherein the filter elements have a negative zeta potential at physiological pH.

33. (Previously Presented) The filter of claim 32, further comprising at least one first additional filter element, wherein the surface of the first additional fibrous filter element has a greater number of carboxyl groups relative to the bulk of the element and a nitrogen-to-oxygen ratio in the range of from at least 0.01 to less than about 1.00.

34. (Previously Presented) The filter of claim 33, further including at least one second additional fibrous filter element, wherein the surface of the second additional element is hydroxylated relative to the bulk of the second additional element.

Please add the following new claims.

35. (New) The filter of claim 1, wherein the filter element having the surface that is substantially non-hydroxylated and having a nitrogen-to-oxygen ratio in the range of from at least 0.01 to less than about 1.00 has a negative zeta potential in the range of from about -5 mv to about -25 mv at physiological pH, and the filter element having the surface that is hydroxylated has a negative zeta potential in the range of from about -5 mv to about -20 mv at physiological pH.

36. (New) The filter of claim 35, wherein the filter having the surface that is substantially non-hydroxylated and having a nitrogen-to-oxygen ratio in the range of from at lease 0.01 to less than about 1.00 has a negative zeta potential in the range of from about -8 mv to about -20 mv at physiological pH.

37. (New) The filter of claim 35, wherein the filter having the surface that is hydroxylated has a negative zeta potential in the range of from about -7 mv to about -15 mv at the physiological pH.

38. (New) The filter of claim 36, wherein the filter having the surface that is hydroxylated has a negative zeta potential in the range of from about -7 mv to about -15 mv at the physiological pH.